EXECUTIVE SUMMARY

Existing Conditions

Edwards and Kelcey has prepared this study to develop a comprehensive transportation plan for Union Square in Somerville, Massachusetts. Union Square is the oldest neighborhood within Somerville and is located in the southeast corner of the City. The Union Square Project Area is roughly defined by a ¼ mile radius encompassing the square. Land uses within the project area includes a commercial and mixed-use core with an outer ring of dense single and multi-family residences. The goal of this project is to provide the city with a comprehensive report and plan detailing the opportunities and constraints of the existing transportation network within Union Square primarily related to Traffic Congestion, Pedestrian/Bicycle Safety, Public Transportation, and Parking. Proposed development projects within the area are described within the report including the Urban Ring project and the MBTA Green Line extension.

As part of the study, existing conditions within Union Square were surveyed to evaluate the existing operational and safety conditions. Critical intersections within the square include the intersections of:

- Washington Street, Somerville Avenue, and Webster Street
- Washington Street, Somerville Avenue, and Prospect Street
- Webster Street and Prospect Street

Under the current traffic volume conditions, the intersection of Washington Street, Somerville Avenue, and Webster Street operates at level-of-service (LOS) E during the weekday AM peak hour and the intersection of Washington Street, Somerville Avenue, and Prospect Street operates at LOS F during the weekday PM peak hour. The critical intersections currently operate at LOS D or better during all other analyzed time periods. However, vehicle queue lengths resulting from signal delays extend beyond the available storage lengths on a few approaches affecting the operation of adjacent intersections.

An Origin-Designation study was performed to determine the existing traffic patterns through Union Square. These patterns were analyzed to establish the travel routes most likely used by drivers traveling through the square. The results were used to reassign traffic under each of the evaluated improvement alternatives.

Accident data for the study locations were obtained from the Massachusetts Highway Department for the most recent three-year period available (1998-2000). The data revealed that the intersection of Somerville Avenue, Washington Street, and Webster Street as well as the intersection of Somerville Avenue, Prospect Street, and Washington Street are listed on the State's High Crash Locations Summary (Top 1000 List).

Pedestrian activity within Union Square was evaluated as part of this study. Pedestrian circulation, pedestrian phasing at signalized intersections, and pedestrian interaction with other modes of travel were considered in the report. Currently, there are no designated bikeways in Union Square.

The availability and convenience of public transportation opportunities is a paramount importance to residences and businesses in and around Union Square. Public transportation is an integral component of the transportation network and will be significantly impacted by changes to the current system. In particular, decisions made on a regional level by the Massachusetts Bay Transportation Authority will ultimately change the dynamics of the current system. The best public transportation solution includes improving the current system while minimizing the impacts of the changes on the area roadway network. This report evaluates the potential impact of regional public transportation changes.

An existing parking survey conducted in Union Square revealed a total of 278 parking spaces within the study area, including 199 metered spaces and 79 unmetered spaces. The current parking regulations, parking supply, and parking usage are detailed in this study.

Public meetings were held to identify specific concerns of area residents as well as to present the scope of the project. These meeting were intended to increase public knowledge of the project's objectives and to learn the public's existing perceptions about Union Square's transportation problems and potentials. Questionnaires were completed by the area residents at the meetings.

Issues and Opportunities

A compilation of public input, City comments, business survey results, field research, and observations are provided in the report. Identification of existing issues and possible opportunities are outlined and will be evaluated in the report. Primary issues related to traffic congestion, pedestrian/bicycle safety, public transportation, and parking are described. The following provides the key problems with respect to each of these issues:

- *Traffic Congestion* – Excessive traffic within the limits of the square
- *Pedestrian/Bicycle Safety* – Incomplete pedestrian network due to inadequate pedestrian paths and crossings
- *Public Transportation* – Limited public transit and awkward location of bus stops
- *Parking* – Isolated parking problems

Resolution of these issues identified above can be addressed through planning and design efforts. As identified by public meeting participants, Union Square has attractive neighborhoods, diverse businesses, and has the potential to be pedestrian friendly. Reduction of traffic is key to creating a pedestrian-friendly business center and viable neighborhood. Potential improvement opportunities include traffic mitigation, pedestrian/bicycle safety and urban design, public transportation, and parking.

Roadway Alternatives

Three alternatives have been developed to improve traffic flow, increase pedestrian/bicycle safety, provide access to public transportation, and improve utilization of parking in Union Square. Various one-way and two-way traffic configurations are proposed for the study area. The following details the three improvement alternatives:

Alternative 1 proposes two-way traffic on both Webster Street and Prospect Street and retains the existing traffic configuration within Union Square itself (with safety improvements and parking lot changes). The existing one-way pair on Bow Street/Somerville Avenue is retained.

Alternative 2 reverses the one-way traffic flow on Webster Street and Prospect Street and retains the existing traffic configuration within Union Square itself (with safety improvements and parking lot changes). The existing one-way pair on Bow Street/Somerville Avenue is retained.

Alternative 3 proposes two-way traffic on both Webster Street and Prospect Street and re-opens Washington Street to through traffic in the square. Washington Street and Somerville Avenue operate as one-way pairs. Somerville Avenue west of the square would be reduced in width but the existing one-way traffic flow on Bow Street/ Somerville Avenue is retained.

Public workshops including local and area residents, local business owners and local police, fire, city personnel, department heads was held to provide an opportunity to informally review the three alternative plans and present information on traffic, urban design, public transportation, and parking.

Road Recommendations

The objective of the Union Square Transportation Plan is to craft a plan which creates a more livable urban village by balancing traffic improvements with urban design initiatives, parking improvements and mass transit opportunities. Through public participation and City review, two of the alternatives schemes have been advanced to the Recommendation stage. Each of the revised alternatives include components that could be incorporated for implementation.

The two options include:

Two-Way Street Option - The Two-Way Option balances the demand to improve traffic flow through the Square with the needs of local residents and business people to create a pedestrian-friendly urban village. The existing plaza would be retained and redesigned to create a pedestrian-scale and pedestrian-appropriate space for those waiting for the bus or walking to area shops and services. Both Webster Street and Prospect Street would become two-way under this option. Traffic flow on Somerville Avenue within the Square would remain two-way. A coordinated traffic signal would be installed at the entrance/exit to the municipal parking area in the Square (to facilitate the flow of traffic from Bonner Avenue, Washington Street, and the parking lot). Existing one-way patterns on Bow Street and Somerville Avenue (west of the Square) would be retained. Bike lanes and a boulevard could be constructed along this west section of Somerville Avenue to coordinate with design efforts further west of the Square.

Boulevard Option - The Boulevard Option creates a one-way pair of streets in the Square by reopening Washington Street between Prospect Street on the east and the Somerville/Bow/ Webster intersection on the west. The new section of Washington Street would serve one-way traffic westbound and Somerville Avenue would serve one-way traffic eastbound. The existing 42-space municipal lot in the plaza would be eliminated but on street parking would be provided on both sides of each one-way segment. A mid-block raised or textured crossing with curb extensions would improve connections between bus stops since pedestrians would only have to cross one direction of traffic at a time. The remaining plaza island attached to the SCAT building would be retained as an urban village common.

With the alternatives described above and appropriate roadway signing, transit, and parking improvements described in this report, the goals of the project can be achieved.

Public Transportation

In addition to the roadway alternatives described above, new investments in public transit alternatives should be incorporated into the final transportation plan for Union Square. Included would be the development a new multi-modal station along Webster Street or a future tie to the subway system transit if the MBTA extended the Green Line from Lechmere to Union Square.

A commuter rail stop on either the Fitchburg Line adjacent to Prospect Street on the Lowell Line at Washington / McGrath Highway would increase transit alternatives and decrease vehicular traffic in Union Square in the long run.